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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,477	02/26/2004	Richard D. Dettinger	ROC920040002US1	7008
46797 7590 12/27/2007 IBM CORPORATION, INTELLECTUAL PROPERTY LAW DEPT 917, BLDG. 006-1 3605 HIGHWAY 52 NORTH ROCHESTER, MN 55901-7829			EXAMINER DARNO, PATRICK A	
			ART UNIT 2163	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/787,477	Applicant(s) DETTINGER ET AL.	
	Examiner Patrick A. Darno	Art Unit 2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-8, 10, 11, 13-16, 19-25 and 28-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-8, 10, 11, 13-16, 19-25 and 28-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 31-38 are new. Claims 1, 9, 12, 17-18, and 26-27 have been cancelled. Claims 2-8, 10, 13-16, 19-25, and 28-30 are amended. Claims 2-8, 10-11, 13-16, 19-25, and 28-38 are pending in this office action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 2-8, 10-11, 13-16, 19-25, and 28-38 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication Number 2005/0125427 issued to Benoit Dageville et al. (hereinafter “Dageville”).

Claim 31:

Dageville discloses a computer-implemented method for scheduling execution of units of work (*Dageville: see at least paragraph [0003], lines 4-5 and paragraph [0026], lines 1-3; Dageville discloses a method of improving an existing query plan. A schedule can be interpreted as a list of actions. A query plan contains numerous actions (or a list of actions) needed to be carried out to execute a query (unit of work). So a method of generating a query plan for a query is equivalent to “scheduling execution of units of work”.*), comprising:

determining a first cost to execute a first unit of work (*Dageville: see at least paragraph [0012], lines 14-18 and paragraph [0020], lines 13-16 and paragraph [0024], lines 5-7 and paragraph [0025], lines 5-8; Note that many of the references cited here disclose comparing two costs. This means that two costs are determined. The first cost of the query when executed with the initial query plan and the second cost of the query to be executed with a tuned query plan.*);

determining a first set of user-selectable scheduling options for future execution of the first unit of work based on the first cost (*Dageville: see at least paragraph [0003], lines 4-5 and paragraph [0020], lines 16-18 and paragraph [0027], lines 14-21; Note that two query plans (set of user-selectable querying options) are generated: an 'old query plan' which was first developed before the query initially began to run and a 'new query plan' which is developed second. Note that the query plans (scheduling options) are user selectable (Dageville: paragraph [0026], lines 11-13 and paragraph [0027], lines 24-25). The 'old query plan' is equivalent to the claimed 'first set of user selectable scheduling options'.*), wherein the first set of user-selectable scheduling options is a subset of a larger set of scheduling options, wherein the larger set of scheduling options are stored on a computer readable medium (*Dageville: see at least paragraph [0003], lines 4-5 and paragraph [0020], lines 16-18 and paragraph [0027], lines 14-21; A query plan contains a list of actions or scheduling options that are chosen from at least a list of all possible actions that could be used to execute a query.*);

returning the first set of user-selectable scheduling options to a user interface for display (*Dageville: see at least paragraph [0027]; Note that the 'old query plan' (first set of user-selectable scheduling options) and 'new query plan' (second set of user-selectable scheduling options) are presented to the user so that the user can compare and contrast scheduling options and then choose the one the user sees fit.*);

determining a second cost to execute a second unit of work (*Dageville: see at least paragraph [0012], lines 14-18 and paragraph [0020], lines 13-16 and paragraph [0024], lines 5-7 and paragraph [0025], lines 5-8; Note that many of the references cited here disclose comparing two costs. This means that two costs are determined. The first cost of the query when executed with the initial query plan and the second cost of the query to be executed with a tuned query plan.*);

determining a second set of user-selectable scheduling options for future execution of the second unit of work based on the second cost (*Dageville: see at least paragraph [0003], lines 4-5 and paragraph [0020], lines 16-18 and paragraph [0027], lines 14-21; The 'new query plan' is equivalent to the claimed 'second set of user selectable scheduling options'.*), wherein the second set of user-selectable scheduling options is a subset of the larger set of scheduling options (*Dageville: see at least paragraph [0003], lines 4-5 and paragraph [0020], lines 16-18 and paragraph [0027], lines 14-21; A query plan contains a list of actions or scheduling options that are chosen from at least a list of all possible actions that could be used to execute a query.*), and wherein the second set of user-selectable scheduling options is different than the first set of user-selectable scheduling options (*Dageville: see at least paragraph [0027]; Note that the 'old query plan' and 'new query plan' are different from each other since the user is given the option to compare and contrast the two query plans (scheduling options).*); and

returning the second set of user-selectable scheduling options to a user interface for display (*Dageville: see at least paragraph [0027]; Note that the 'old query plan' (first set of user-selectable scheduling options) and 'new query plan' (second set of user-selectable scheduling options) are presented to the user so that the user can compare and contrast scheduling options and then choose the one the user sees fit.*).

Claim 2:

Dageville discloses all the elements of claim 31, as noted above, and Dageville further discloses wherein at least one of the first and second units of work is a query (*Dageville: see at least paragraph [0012], lines 1-4 and paragraph [0018] and paragraph [0019]; Note at least "one or more database query language statements."*).

Claim 3:

Dageville discloses all the elements of claim 31, as noted above, and Dageville further discloses wherein at least one of the first and second units of work is an analysis routine (*Dageville: see at least paragraph [0012], lines 1-4 and paragraph [0018] and paragraph [0019]; From the references cited here, it is clear that Dageville discloses wherein the unit of work is a query. The Applicant clearly defines an analysis routine in paragraph [0026], lines 29-32 of the Applicant's Specification. This definition states that an analysis routine is "any unit of work performed with respect to the data in the database". Surely a query is a unit of work performed with respect to the data in the database. Therefore, since Dageville discloses a query, Dageville also discloses an analysis routine.*).

Claim 4:

Dageville discloses all the elements of claim 31, as noted above, and Dageville further discloses displaying the returned first and second sets of user-selectable scheduling options via a menu in the user interface (*Dageville: see at least paragraph [0020], lines 16-18 and paragraph [0027], lines 14-25; A menu can be interpreted as a list of options on a computer screen. Since both sets of scheduling options (query plans) are presented to the user allowing the user to keep the old or accept the new, it is clear that Dageville discloses each and every element of claim 4.*).

Claim 5:

Dageville discloses all the elements of claim 31, as noted above, and Dageville further discloses, for each of the first and second sets of user-selectable scheduling options:

receiving a user selection from the respective set of user selectable scheduling options

(Dageville: see at least paragraph [0020], lines 16-18 and paragraph [0027], lines 14-25 and claim 5: "receiving a selection of a subset of the recommendations from the user"); and

storing a schedule for the respective unit of work on the basis of the user selection

(Dageville: paragraph [0027], lines 21-24).

Claim 6:

Dageville discloses all the elements of claim 31, as noted above, and Dageville further discloses, for each of the first and second sets of user-selectable scheduling options:

receiving a user selection from the respective set of user selectable scheduling options

(Dageville: see at least paragraph [0020], lines 16-18 and paragraph [0027], lines 14-25 and claim 5: "receiving a selection of a subset of the recommendations from the user");

storing a schedule for the respective unit of work on the basis of the user selection

(Dageville: paragraph [0027], lines 21-24); and

repetitively executing the respective unit of work on the basis of the schedule *(Dageville:*

see at least paragraph [0020], lines 16-18 and paragraph [0027], lines 14-25; After the user selects a particular schedule (query plan), the system continues to run execute the query according to the schedule (query plan) until a new plan is determined necessary.).

Claim 7:

Dageville discloses all the elements of claim 31, as noted above, and Dageville further discloses wherein determining the first and second costs to execute the first and second units of work, respectively, comprises estimating a respective time required to execute the respective unit of work (*Dageville: paragraph [0026], lines 1-3*).

Claim 8:

Dageville discloses all the elements of claim 31, as noted above, and Dageville further discloses wherein determining the first and second costs to execute the first and second units of work is done on the basis of historical query execution times for previous executions of the respective units of work (*Dageville: paragraph [0023], lines 7-11 and paragraph [0024], lines 5-7 and paragraph [0031]*).

Claim 10:

Dageville discloses all the elements of claim 21, as noted above, and Dageville further discloses, wherein determining the first and second sets of user-selectable scheduling options comprises:

determining user parameters specific to a user (*Dageville: paragraph [0023], lines 7-11 and paragraph [0024], lines 5-7 and paragraph [0025], lines 8-10 and paragraph [0031]; The history of the query is a user parameter since the user had to have some influence on what queries were being executed and how often the queries were being executed.*); and

determining the respective set of user-selectable scheduling options for future execution of the respective unit of work on the basis of the respective cost and the user parameters

(Dageville: paragraph [0023], lines 7-11 and paragraph [0024], lines 5-7 and paragraph [0025], lines 8-10 and paragraph [0027] and paragraph [0031]).

Claim 11:

Dageville discloses all the elements of claim 10, as noted above, and Dageville further discloses wherein the user parameters include at least one of a user status of the user and other units of work already scheduled for execution by the user *(Dageville: paragraph [0023], lines 7-11 and paragraph [0024], lines 5-7 and paragraph [0025], lines 8-10 and paragraph [0027] and paragraph [0031];*

Dageville discloses wherein the user parameters include "other units of work already scheduled for execution by the user" (query history).).

Claim 32:

Dageville discloses wherein:

the first cost to execute the first unit of work is higher than the second cost to execute the second unit of work *(Dageville: paragraph [0027], lines 12-19; Note that the recommendations made by the tuner 'improve' the query plan. Therefore, the second cost must be less than the first cost.); and*

the first set of user-selectable scheduling options is less than the second set of user-selectable scheduling options *(Dageville: paragraph [0027]; The 'old query plan' (first scheduling options) is generated before the 'new query plan' (second scheduling options). Therefore, the first set of scheduling options disclosed in the Dageville reference is less than the second set of scheduling options disclosed in the Dageville reference with respect to time.).*

Claim 13:

Dageville discloses all the elements of claim 32, as noted above, and Dageville further discloses wherein determining system availability to execute the first and second units of work,

respectively, comprises accessing a query schedule having entries defined for respective units of work (*Dageville: see at least paragraph [0012] and [0019]; Specifically, note that Dageville discloses query execution plans in the paragraphs cited and in numerous other areas of U.S. Patent Publication Number 2005/0125427. When a query is to run, it consults the query execution plan to determine how it will run.*).

Claim 14:

Claim 14 is rejected under the same reasons set forth in the rejection of claim 6.

Claim 15:

Claim 15 is rejected under the same reasons set forth in the rejection of claim 7.

Claim 16:

Claim 16 is rejected under the same reasons set forth in the rejection of claim 8.

Claim 33:

Dageville discloses a computer-implemented method for scheduling execution of units of work (*Dageville: see at least paragraph [0003], lines 4-5 and paragraph [0026], lines 1-3; Dageville discloses a method of improving an existing query plan. A schedule can be interpreted as a list of actions. A query plan contains numerous actions (or a list of actions) needed to be carried out to execute a query (unit of work). So a method of generating a query plan for a query is equivalent to "scheduling execution of units of work".*); comprising:

determining a first cost to execute a first unit of work (*Dageville: see at least paragraph [0012], lines 14-18 and paragraph [0020], lines 13-16 and paragraph [0024], lines 5-7 and paragraph [0025], lines 5-8; Note that many of the references cited here disclose comparing two costs. This means that two costs are determined. The first cost of the query when executed with the initial query plan and the second cost of the query to be executed with a tuned query plan.*);

determining system availability to execute the first unit of work (*Dageville: paragraph [0004];*

Note particularly paragraph [0004], lines 7-10. Intimate knowledge of the 'system load' is required tuning and scheduling queries.);

determining a first set of user-selectable scheduling options for future execution of the first unit of work on the basis of the first cost and the system availability (*Dageville: see at least paragraph [0003], lines 4-5 and paragraph [0004] and paragraph [0020], lines 16-18 and paragraph [0027], lines 14-21; Note that two query plans (set of user-selectable querying options) are generated: an 'old query plan' which was first developed before the query initially began to run and a 'new query plan' which is developed second. Note that the query plans (scheduling options) are user selectable (Dageville: paragraph [0026], lines 11-13 and paragraph [0027], lines 24-25). The 'old query plan' is equivalent to the claimed 'first set of user selectable scheduling options'.), wherein the first set of user-selectable scheduling options is a subset of a larger set of scheduling options, wherein the larger set of scheduling options are stored on a computer readable medium (Dageville: see at least paragraph [0003], lines 4-5 and paragraph [0020], lines 16-18 and paragraph [0027], lines 14-21; A query plan contains a list of actions or scheduling options that are chosen from at least a list of all possible actions that could be used to execute a query.);*

returning the first set of user-selectable scheduling options to a user interface for display (*Dageville: see at least paragraph [0027]; Note that the 'old query plan' (first set of user-selectable scheduling options) and 'new query plan' (second set of user-selectable scheduling options) are presented to the user so that the user can compare and contrast scheduling options and then choose the one the user sees fit.);*

determining a second cost to execute a second unit of work (*Dageville: see at least paragraph [0012], lines 14-18 and paragraph [0020], lines 13-16 and paragraph [0024], lines 5-7 and paragraph [0025], lines 5-8; Note that many of the references cited here disclose comparing two costs. This means that two costs are*

determined. The first cost of the query when executed with the initial query plan and the second cost of the query to be executed with a tuned query plan.);

determining system availability to execute the second unit of work (Dageville: paragraph [0004]; Note particularly paragraph [0004], lines 7-10. Intimate knowledge of the 'system load' is required tuning and scheduling queries.);

determining a second set of user-selectable scheduling options for future execution of the second unit of work based on the second cost and the system availability (Dageville: see at least paragraph [0003], lines 4-5 and paragraph [0004] and paragraph [0020], lines 16-18 and paragraph [0027], lines 14-21; The 'new query plan' is equivalent to the claimed 'second set of user selectable scheduling options'.), wherein the first set of user-selectable scheduling options is a subset of the larger set of scheduling options (Dageville: see at least paragraph [0003], lines 4-5 and paragraph [0020], lines 16-18 and paragraph [0027], lines 14-21; A query plan contains a list of actions or scheduling options that are chosen from at least a list of all possible actions that could be used to execute a query.), and wherein the second set of user-selectable scheduling options is different than the first set of user-selectable scheduling options (Dageville: see at least paragraph [0027]; Note that the 'old query plan' and 'new query plan' are different from each other since the user is given the option to compare and contrast the two query plans (scheduling options).); and returning the second set of user-selectable scheduling options to a user interface for display (Dageville: see at least paragraph [0027]; Note that the 'old query plan' (first set of user-selectable scheduling options) and 'new query plan' (second set of user-selectable scheduling options) are presented to the user so that the user can compare and contrast scheduling options and then choose the one the user sees fit.).

Claim 19:

Dageville discloses all the elements of claim 33, as noted above, and Dageville further discloses wherein determining the first and second sets of user-selectable scheduling options comprises:

determining system availability to execute the respective unit of work (*Dageville: paragraph [0004]; Note particularly paragraph [0004], lines 7-10. Intimate knowledge of the 'system load' is required tuning and scheduling queries.*); and

determining the respective set of user-selectable scheduling options for repetitive execution of the unit of work on the basis of the respective cost and the system availability (*Dageville: see at least paragraph [0003], lines 4-5 and paragraph [0004] and paragraph [0020], lines 16-18 and paragraph [0027], lines 14-21).*

Claim 20:

Claim 20 is rejected under the same reasons set forth in the rejection of claim 4.

Claim 21:

Claim 21 is rejected under the same reasons set forth in the rejections of claims 11 and 31.

Claim 22:

Claim 22 is rejected under the same reasons set forth in the rejection of claim 5.

Claim 23:

Claim 23 is rejected under the same reasons set forth in the rejection of claim 6.

Claim 24:

Claim 24 is rejected under the same reasons set forth in the rejection of claim 7.

Claim 25:

Claim 25 is rejected under the same reasons set forth in the rejection of claim 8.

Claim 28:

Dageville discloses all the elements of claim 28, as noted above, and Dageville further discloses a database against which the first and second units of work are executed (*Dageville: paragraph [0027]*).

Claim 29:

Claim 29 is rejected under the same reasons set forth in the rejection of claim 2.

Claim 30:

Claim 30 is rejected under the same reasons set forth in the rejection of claim 3.

Claim 34:

Claim 34 is rejected under the same reasons as set forth in the rejection of claim 32.

Claim 35:

Claim 35 is rejected under the same reasons set forth in the rejection of claim 31.

Claim 36:

Claim 36 is rejected under the same reasons set forth in the rejection of claim 32.

Claim 37:

Claim 37 is rejected under the same reasons set forth in the rejection of claim 31.

Claim 38:

Claim 38 is rejected under the same reasons set forth in the rejection of claim 32.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick A. Darno whose telephone number is (571) 272-0788. The examiner can normally be reached on Monday - Friday, 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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Patrick A. Darno
Examiner
Art Unit 2163



PAD



WILSON LEE
PRIMARY EXAMINER